example. A state where the first substrate **10** and the second substrate **20** are seen in the direction perpendicular to the principal surface of each substrate is illustrated in FIG. **9**.

Hereinafter, differences from the solid-state imaging device **1010** illustrated in FIG. **7** will be described. In the solid-state imaging device **1012**, the pixel group includes two sets of four first pixels P**1** included in the unit array of the Bayer array. That is, the pixel group includes eight first pixels P**1** of four rows and two columns. A second pixel P**2** is arranged corresponding to the set of the plurality of first pixels P**1** that constitute the pixel group.

Third Modified Example

FIG. **10** illustrates a configuration example of a solid-state imaging device **1013** according to a third modified example. A state where the first substrate **10** and the second substrate **20** are seen in the direction perpendicular to the principal surface of each substrate is illustrated in FIG. **10**.

Hereinafter, differences from the solid-state imaging device **1010** illustrated in FIG. **7** will be described. In the solid-state imaging device **1013**, the pixel group includes four sets of four first pixels P**1** included in the unit array of the Bayer array. That is, the pixel group includes sixteen first pixels P**1** of four rows and four columns. A second pixel P**2** is arranged corresponding to the set of the plurality of first pixels P**1** that constitute the pixel group.

In all of the above modified examples, the light, which has been transmitted through a pixel group constituted of a plurality of the first pixels P**1** corresponding to the color filters of two or more colors, enters the second photoelectric conversion unit **201** of a second pixel P**2** corresponding to the pixel group. Accordingly, the sensitivity of the second pixel P**2** can be improved.

Additionally, by changing the combination of the first pixels P**1** that constitute the pixel group as described above, it is possible to change a region where the second pixel P**2** is arranged. Therefore, the degree of freedom of the layout of the second pixel P**2** can be improved.

Additionally, by constituting the pixel group so as to include one or more sets of the four first pixels P**1** corresponding to the unit array of the Bayer array, the second pixel P**2** corresponding to the pixel group can be easily arranged.

While preferred embodiments of the present invention have been described, the present invention is not limited to the embodiments. Additions, omissions, substitutions, and other variations may be made to the present invention without departing from the spirit and scope of the present invention. The present invention is not limited by the above description, but by the appended claims.

What is claimed is:

1. A solid-state imaging device comprising:

a first substrate configured such that a plurality of first pixels having first photoelectric conversion units are arranged in a two-dimensional matrix;

a second substrate configured such that a plurality of second pixels having second photoelectric conversion units are arranged in a two-dimensional matrix; and

a plurality of color filters arranged corresponding to each of the first pixels,

wherein a plurality of the first pixels corresponding to the color filters of two or more colors constitute a pixel group,

wherein a plurality of the pixel groups are arranged so that each of the pixel groups corresponds to one of the second pixels,

wherein a light which is transmitted through the color filters enters the first photoelectric conversion units of the first pixels corresponding to the color filters,

wherein a light which is transmitted through the pixel group enters the second photoelectric conversion unit of the second pixel corresponding to the pixel group,

wherein the number of colors of the color filters corresponding to the plurality of first pixels that constitute the pixel group, and the number of the first pixels corresponding to each color are equal to each other among the plurality of pixel groups,

wherein the color filters include:

R filters having a peak of transmittance in a red wavelength band;

G filters having a peak of transmittance in a green wavelength band; and

B filters having a peak of transmittance in a blue wavelength band, and

wherein the pixel group includes two or more of the first pixels corresponding to the R filters.

2. The solid-state imaging device according to claim **1**,

wherein the R filters, the G filters, and the B filters are arranged so as to constitute a Bayer array, and

wherein the pixel group includes only two of the first pixels corresponding to the R filters and one of the first pixels corresponding to the G filter.

3. The solid-state imaging device according to claim **1**,

wherein the R filters, the G filters, and the B filters are arranged so as to constitute a Bayer array, and

wherein the pixel group includes two or more combinations of only one of the first pixels corresponding to one of the R filters included in a unit array of the Bayer array, two of the first pixels corresponding to two of the G filters included in the unit array of the Bayer array, and one of the first pixels corresponding to one of the B filters included in the unit array of the Bayer array.

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